

Potentilla robbinsiana

Status

Federal status: G1 N1, Not listed

NH state status: S1, Endangered

ME state status: Not ranked or listed

Populations are monitored annually. One natural population is stable; the other is increasing. The two transplant populations appear to be stable or increasing and have reach viable population levels identified in the Recovery Plan.

The expert panel estimated the range-wide and WMNF viability at outcome C because there are so few populations, and there is no genetic variability, which would be important if the habitat changes. Recreation impacts will probably increase in the next 20 years, but so will public awareness, which may mitigate some impacts.

Distribution

Endemic to the White Mountain National Forest. Known from 4 extant occurrences, 2 natural and 2 from transplants.

Habitat

The expert panel placed this species in the dry/mesic heath meadow system of alpine communities. *Potentilla robbinsiana* is also found on subalpine bare rock summits. The primary habitat for this species is exposed, barren fellfield habitat characterized by high winds and extremely low temperatures. Frost-heaving is a habitat requirement, but too much causes mortality.

Habitat features that are important in providing viability of the dry/mesic heath meadow system include those factors associated with exposure to the elements, especially in winter. The key factors are cold, wind, and snow and ice blast. Other factors include dry to mesic moisture conditions, well-drained sites, thin acidic soils, dessication, and low nutrient tolerant plants. Wind is likely to reduce competition from other species that are not adapted to survive in a harsh environment.

Limiting Factors

Very few areas seem to have the right habitat with the appropriate amount of frost heaving. Therefore, availability of suitable habitat is a key limiting factor for this species.

Human disturbance is the primary threat to this species and the dry/mesic heath meadow system. Hiker pressures to the system include direct trampling along trails and in areas without trails, typically ridges and peaks, where hikers go “view seeking.” Several populations of *Potentilla robbinsiana* have been impacted by trampling.

Global warming and acid deposition may be a threat to the dry/mesic heath meadow system, but the threat is uncertain at this time and is likely minor compared to other factors, such as hiker pressures.

Viability concern

WMNF contains 100% of species' global population. Recently delisted from Federal Endangered status because population recovery objectives have been met and conservation approach is in place.

Management activities that might affect populations or viability

The activity with potential to impact this species that the WMNF has some control over is trampling by hikers. Management that would reduce the density of trails in the alpine zone and help keep hikers on designated trails would reduce the potential for trampling. A scree wall near a population was documented to reduce trampling of this species.

Trail construction or other development in the alpine zone could affect this species if it would directly impact dry-mesic heath habitat or increase human traffic near suitable habitat. Trail maintenance activities could alter habitat suitability or directly impact individuals.

References

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